

ALBUMINEX- albumin human solution

BPL

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use ALBUMINEX® 5% Albumin (human) - kjda safely and effectively. See full prescribing information for ALBUMINEX® 5%.

ALBUMINEX® 5% (human albumin) solution for injection.

Initial U.S. Approval: [2018]

INDICATIONS AND USAGE

ALBUMINEX 5% is a 5% albumin solution indicated for adults and children:

- Hypovolemia (1.1)
- Ascites (1.2)
- Hypoalbuminemia including from burns (1.3)
- Acute Nephrosis (1.4)
- Acute Respiratory Distress Syndrome (ARDS) (1.5)
- Cardiopulmonary Bypass (1.6)

DOSAGE AND ADMINISTRATION

For intravenous use only.

ALBUMINEX 5% may be diluted with 0.9% saline or 5% dextrose (glucose).

Dosage and infusion rate should be adjusted to the patient's individual requirements.

Indication	Dose
Hypovolemia	Adults: Initial dose of 25 g (including renal dialysis). For acute liver failure: initial dose of 12 to 25 g. (2.1)
Prevention of central volume depletion after paracentesis due to cirrhotic ascites	Adults: 8 g for every 1000 mL of ascitic fluid removed. (2.1)
Hypoalbuminemia including from burns	Adults: 50 to 75 g For pre- and post-operative hypoproteinemia: 50 to 75 g. For burn therapy after the first 24 h: initial dose of 25 g and dose adjustment to maintain plasma protein concentration of 2.5 g per 100 mL. Third space protein loss due to infection: initial dose of 50 to 100 g. (2.1)
Acute nephrosis	Adults: 25 g together with diuretic once a day for 7-10 days. (2.1)
Adult respiratory distress syndrome (ARDS)	Adults: 25 g over 30 minutes and repeated at 8 hours for 3 days, if necessary. (2.1)
Cardiopulmonary bypass procedures	Adults: Initial dose of 25 g. (2.1)

DOSAGE FORMS AND STRENGTHS

ALBUMINEX 5% is a solution for infusion: (3)

- ALBUMINEX 5% contains 5 g per dL of human albumin in 250 mL (12.5 g) and 500 mL (25 g) glass vials

CONTRAINDICATIONS

- Hypersensitivity to human albumin or the excipients
- Severe anemia or cardiac failure with normal or increased intravascular volume

WARNINGS AND PRECAUTIONS

- Suspicion of allergic or anaphylactic reactions requires immediate discontinuation of the injection and implementation of appropriate medical treatment (5.1)
- Hypervolemia may occur if the dosage and rate of infusion are not adjusted to the patient's volume status. Use with caution in conditions where hypervolemia and its consequences or hemodilution could represent a special risk to the patient. (5.2)
- Assess electrolytes, coagulation and hematology parameters, and hemodynamic status when albumin is administered (5.4)

- Do not dilute with sterile water for injection (2.3, 5.5, 7.0)
- This product is made from human plasma and may contain infectious agents, e.g. viruses and, theoretically, the Creutzfeldt-Jakob disease agent. (5.5)

-----ADVERSE REACTIONS-----

The most common adverse reactions are rigors, hypotension/decreased BP, tachycardia/increased heart rate, pyrexia, feeling cold (chills), nausea, vomiting, dyspnea/bronchospasm, rash/pruritus. Stop the infusion if anaphylaxis, with or without shock is observed. (6)

To report SUSPECTED ADVERSE REACTIONS, contact BPL Inc. at 1-844-427-5872 or MedInfo@BPL-US.com, or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch. (6)

See 17 for PATIENT COUNSELING INFORMATION.

Revised: 8/2018

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FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

1.1 Hypovolemia

ALBUMINEX 5% is indicated for restoration and maintenance of circulating blood volume where volume deficiency has been demonstrated, and use of a colloid is appropriate e.g. hypovolemia following shock due to trauma or sepsis, in surgical patients and in other similar conditions with volume deficiency when restoration and maintenance of circulating blood volume is required in both adult and pediatric patients. In pediatric patients to reverse hypovolemia and achieve normal capillary refill time. 1, 2, 3, 4, 5, 6, 7, 8

1.2 Ascites

ALBUMINEX 5% is indicated for prevention of central volume depletion and maintenance of cardiovascular function after large volume paracentesis in patients with liver cirrhosis or other chronic liver disease in adults and children. 9, 10, 11, 12

ALBUMINEX 5% infusion plus administration of vasoactive drugs is indicated in the treatment of type I hepatorenal syndrome. 6

For patients with spontaneous bacterial peritonitis, ALBUMINEX 5% is indicated as adjuvant treatment to antibiotic therapy. 9, 10, 13

1.3 Hypoalbuminemia including from burns

ALBUMINEX 5% is indicated in patients with severe burn injury (> 20% total body surface area), but not until at least 12 to 24 hours after the burn, in order to correct protein loss, decrease overall fluid requirements, decrease systemic edema and stabilize cardiovascular hemodynamics without fluid overload (initial resuscitation should be with crystalloids). 8, 14 ALBUMINEX 5% is also indicated in patients with pre- or post-operative hypoproteinemia and for third space protein loss due to infection or burns.

1.4 Acute Nephrosis

ALBUMINEX 5% is indicated in patients with acute nephrosis in combination with loop diuretics to reinforce the diuretic therapeutic effect, which is reduced by hypoalbuminemia, and for the correction of reduced oncotic pressure. 15, 16

1.5 Acute Respiratory Distress Syndrome (ARDS)

ALBUMINEX 5% is indicated in conjunction with diuretics to correct fluid volume overload associated with ARDS. 17, 18, 19

1.6 Cardiopulmonary Bypass

ALBUMINEX 5% is indicated in cardiopulmonary bypass procedures as part of the priming fluids to passivate the synthetic surfaces of the extracorporeal circuit and maintain the patient's colloid oncotic pressure. 20, 21, 22, 23, 24, 25

2 DOSAGE AND ADMINISTRATION

For intravenous administration only.

2.1 Dosage

The concentration of ALBUMINEX 5% used, its dosage, and infusion rate should be adjusted to the patient's individual requirements and clinical indication.

Indication	Dose
Hypovolemia	Hypovolemia Adults: Initial dose of 25 g. If hemodynamic stability is not achieved within 15 to 30 minutes, an additional dose may be given. For acute liver failure: initial dose of 12 to 25 g. An infusion rate of 1-2 mL per minute is usually indicated. For renal dialysis; the initial dose should not exceed 25 g and patients should be carefully observed for signs of fluid overload.
Prevention of central volume depletion after paracentesis due to cirrhotic ascites	Adults: 8 g for every 1000 mL of ascitic fluid removed.
Hypoalbuminemia including from burns	Adults: 50 to 75 g For pre- and post-operative hypoproteinemia: 50 to 75 g. In burns, therapy usually starts with administration of large volumes of crystalloid solution to maintain plasma volume. After 24 hours: initial dose of 25 g and dose adjustment to maintain plasma protein concentration of 2.5 g per 100 mL or a serum protein concentration of 5.2 g per 100 mL. Third space protein loss due to infection or burns: initial dose of 50 to 100 g. An infusion rate of 1-2 mL per minute is usually indicated in the absence of shock. Treatment should always be guided by hemodynamic response.
Acute nephrosis	Adults: 25 g together with diuretic once a day for 7-10 days
Adult respiratory distress syndrome (ARDS)	Adults: 25 g over 30 minutes and repeated at 8 hours for 3 days, if necessary.
Cardiopulmonary bypass procedures	Adults: Initial dose of 25 g. Additional amounts may be administered as clinically indicated.

2.3 Administration

- Visually inspect the solution for particulate matter and discoloration prior to administration, whenever solution and container permit.
- Do not use if there are any particulates seen or if the solution is discolored.
- If a large volume is infused, ensure that the vial is at room temperature before infusion.
- Do not dilute with Sterile Water for Injection as hemolysis may occur. ALBUMINEX 5% may be diluted with 0.9% saline or 5% dextrose.
- Begin the infusion within 4 hours of piercing the vial stopper (the product does not contain any preservative).

- Adjust the rate of infusion according to the individual patient's hemodynamic and other physiological responses, using appropriate clinical monitoring.

3 DOSAGE FORMS AND STRENGTHS

ALBUMINEX 5% is a sterile, aqueous solution of human albumin (5% w/v i.e. 5 g/dL) for intravenous administration available as:

- 250 mL (12.5 g) single dose vial
- 500 mL (25 g) single dose vial

4 CONTRAINDICATIONS

ALBUMINEX 5% is contraindicated in patients with:

- Hypersensitivity to human albumin or any of the excipients
- Severe anemia or cardiac failure with normal or increased intravascular volume

5 WARNINGS AND PRECAUTIONS

5.1 Hypersensitivity Reactions

Suspicion of allergic or anaphylactic reactions require immediate discontinuation of the infusion and implementation of appropriate medical treatment.

5.2 Hypervolemia

Hypervolemia may occur if the dosage and rate of infusion are not adjusted to the patient's volume status. At the first clinical signs of cardiovascular overload (headache, dyspnea, jugular venous distention, increased blood pressure), the infusion must be slowed or stopped immediately.

Use albumin with caution in conditions where hypervolemia and its consequences or hemodilution could represent a special risk to the patient. Examples of such conditions are:

- Decompensated heart failure
- Hypertension
- Esophageal varices
- Pulmonary edema
- Hemorrhagic diathesis
- Severe anemia
- Renal and post-renal anuria

5.3 Laboratory Parameters

When large volumes of albumin are being infused, control of coagulation parameters and hematocrit value is essential. Also, ensure adequate substitution of other blood constituents such as coagulation factors, electrolytes, platelets and erythrocytes, as appropriate.

5.4 Clinical Hemodynamics Parameters

The colloid osmotic pressure of ALBUMINEX 5% is about the same as plasma.

The following parameters should be assessed during administration of ALBUMINEX 5%:

- Arterial blood pressure and pulse rate
- Central venous pressure
- Pulmonary artery occlusion pressure
- Urine output
- Electrolytes

- Hematocrit/hemoglobin

5.5 Pre-infusion Preparation

ALBUMINEX 5% must not be diluted with sterile water for injection as this may cause hemolysis in recipients. The product can be diluted in an isotonic solution (e.g., 5% dextrose in water or 0.9% sodium chloride) [see *Dosage and Administration* (2.2)].

5.6 Infectious Diseases

Albumin is a derivative of human blood. Based on effective donor screening and product manufacturing processes, it carries an extremely remote risk for transmission of viral diseases. A theoretical risk for transmission of Creutzfeldt-Jakob disease (CJD) is also considered extremely remote. No cases of transmission of viral diseases or CJD have ever been identified for ALBUMINEX 5%.

6 ADVERSE REACTIONS

6.1 General

In general, human albumin solutions are well-tolerated and no specific, clinically relevant alterations in organ function or coagulopathy have been substantiated.²⁶

The most common adverse reactions associated with infusion of human albumin solutions are rigors, hypotension/decreased BP, tachycardia/increased heart rate, pyrexia, feeling cold (chills), nausea, vomiting, dyspnea/bronchospasm, rash/pruritus. Reactions usually resolve when the infusion is slowed or stopped.

Anaphylaxis, with or without shock, may occur and in this situation, stop the infusion.

6.2 Clinical Trials Experience

No clinical studies were done using ALBUMINEX 5%.

7 DRUG INTERACTIONS

Do not mix ALBUMINEX 5% with blood, blood components, protein hydrolysates, alcoholic solutions or other medicinal products. Although it is not usually necessary to dilute Albuminex 5%, if it should be necessary, it may be diluted with 0.9% saline or 5% dextrose. However, it can be administered, via a separate IV line, concomitantly with other parenterals.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

There are no data with ALBUMINEX 5% use in pregnant women to inform on drug-associated risk. Animal reproduction studies have not been conducted using ALBUMINEX 5%. It is not known whether ALBUMINEX 5% can cause fetal harm when administered to a pregnant woman or can affect fertility. ALBUMINEX 5% should be given to a pregnant woman only if clearly needed. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2-4% and 15-20%, respectively.

8.2 Lactation

Risk Summary

There is no information regarding the presence of ALBUMINEX 5% in human milk, the effects on the

breast-fed infant, or the effects on milk production. The developmental and health benefits of breast-feeding should be considered along with the mother's clinical need for ALBUMINEX 5% and any potential adverse effects on the breast-fed infant from ALBUMINEX 5% or from the underlying maternal condition.

8.4 Pediatric Use

No human or animal data. Use only if clearly needed.

8.5 Geriatric Use

No human or animal data. Use only if clearly needed.

11 DESCRIPTION

ALBUMINEX 5% is a sterile, ready-for-use, clear, slightly viscous, almost colorless, yellow, amber or slightly green aqueous solution of human albumin for single dose intravenous infusion. It is prepared from the pooled plasma of US donors in FDA-licensed facilities in the US. The product also contains 130-160 mmol/L of sodium, less than 200 micrograms/L of aluminum and is stabilized with caprylate (0.08 mmol/g albumin) and acetyltryptophanate (0.08 mmol/g albumin) but does not contain any preservative.

12.5 g (250 mL) of ALBUMINEX 5% is oncologically equivalent to 250 mL plasma.

25 g (500 mL) of ALBUMINEX 5% is oncologically equivalent to 500 mL plasma.

The vials are closed with a synthetic rubber stopper. The stopper is not made with natural rubber latex.

The viral risk from human plasma is minimized by the fractionation process and pasteurization of the albumin solution for 10 hours at 60°C (140°F) in its final container. These processes are effective for both enveloped and non-enveloped viruses. There have been no reports of virus transmission with products manufactured using this combination of processes.

Typical reductions of experimental viral loads are shown in Table 1.

Table 1: Virus Reduction for Albumin (Human) 5%

	Mean Reduction Factors (log ₁₀)					
	Enveloped Virus	Enveloped Virus	Enveloped Virus	Enveloped Virus	Non-Enveloped Virus	Non-Enveloped Virus
Manufacturing Step	HIV-1	Sindbis	BVDV	IBR	HAV	CPV
A+1 Precipitation	nd	4.1	>3.4	3.4	3.4	3.7
Fraction IV Precipitation	>4.6	>7.1	>4.2	>5.7	4.2	6.0
Pasteurization	>6.7	>6.4	>4.2	>5.4	4.0	4.0
Overall	>11.3	>13.5	>8.4	>11.1	8.2	10.0

nd: not determined

HIV-1: Human Immunodeficiency Virus Type 1

BVDV: Bovine Viral Diarrhoea Virus

IBR: Infectious Bovine Rhinotracheitis

HAV: Hepatitis A Virus

CPV: Canine Parvovirus

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Human albumin accounts for more than half of the total protein in the plasma and represents about 10% of protein synthesis activity by the liver.

The primary physiological function of albumin results from its contribution to plasma colloid oncotic pressure and transport function. Albumin stabilizes circulating blood volume and is a carrier of hormones, enzymes, medicinal products and toxins. Other physiological functions include antioxidant properties, free radical scavenging, and capillary membrane integrity.

12.3 Pharmacokinetics

Albumin is distributed throughout the extracellular space and more than 60% of the body albumin pool is located in the extravascular fluid compartment. Albumin has a circulating life span of 15-20 days, with a turnover of approximately 15 g per day. The balance between synthesis and breakdown is normally achieved by feedback regulation. Elimination is predominantly intracellular and due to lysosome proteases.

In healthy subjects, less than 10% of infused albumin leaves the intravascular compartment during the first 2 hours following infusion. There is considerable individual variation in the effect of albumin on plasma volume.

In some patients, the plasma volume can remain elevated for several hours. In critically ill patients, however, albumin can leak out of the vascular space in substantial amounts at an unpredictable rate.

15 REFERENCES

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16 HOW SUPPLIED/STORAGE AND HANDLING

How ALBUMINEX 5% is supplied

ALBUMINEX 5%, 5 g/dL in clear Type II glass vials.

	Grams and fill	NDC carton	
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strength	size	number	NDC vial number
5%	12.5 g in 250 mL	64208-2510-1	64208-2510-2
5%	25 g in 500 mL	64208-2510-5	64208-2510-6

Not all pack sizes may be marketed.

Storage and handling

Do not store above 30°C (86°F).

Keep the vial stored in the outer carton in order to protect from light.

Do not freeze.

Do not use ALBUMINEX 5% after the expiration date which is stated on the carton and label after "EXP." The expiration date refers to the last day of that month.

ALBUMINEX 5% should be inspected visually for particulate matter and discoloration prior to administration.

U.S. federal law prohibits dispensing without prescription.

17 PATIENT COUNSELING INFORMATION

Ensure that patients to be treated with ALBUMINEX 5% are informed of the potential risks and benefits of its use for their clinical condition *[see Warnings and Precautions (5)]*.

Check that they are not known to be allergic to the product or its excipients *[see Contraindications (4) and Description (11)]*.

Make them aware of the symptoms of anaphylaxis *[see Hypersensitivity (5.1)]*.

Make them aware of the symptoms of potential circulatory overload *[see Hypervolemia (5.2)]*.

Inform patients that because ALBUMINEX 5% is derived from human blood plasma it may contain infectious agents that cause disease (e.g. viruses and, theoretically CJD agent) although the risk of infection from ALBUMINEX 5% has been reduced by the procedures used in donor selection and during manufacture *[see Infectious Diseases (5.6) and Description (11)]*.

Manufactured by:

Bio Products Laboratory Ltd.,
Elstree,
WD6 3BX.
United Kingdom

U.S. Distributor:

Bio Products Laboratory USA Inc.,
302 East Pettigrew Street,
Suite C-190,
Durham, NC 27701
USA

U.S. Licence No:1811

ALBUMINEX® is a registered trademark of Bio Products Laboratory Ltd.

PRINCIPAL DISPLAY PANEL - 500 mL Vial Label

NDC 64208-2510-6

Albumin (Human) - kjda

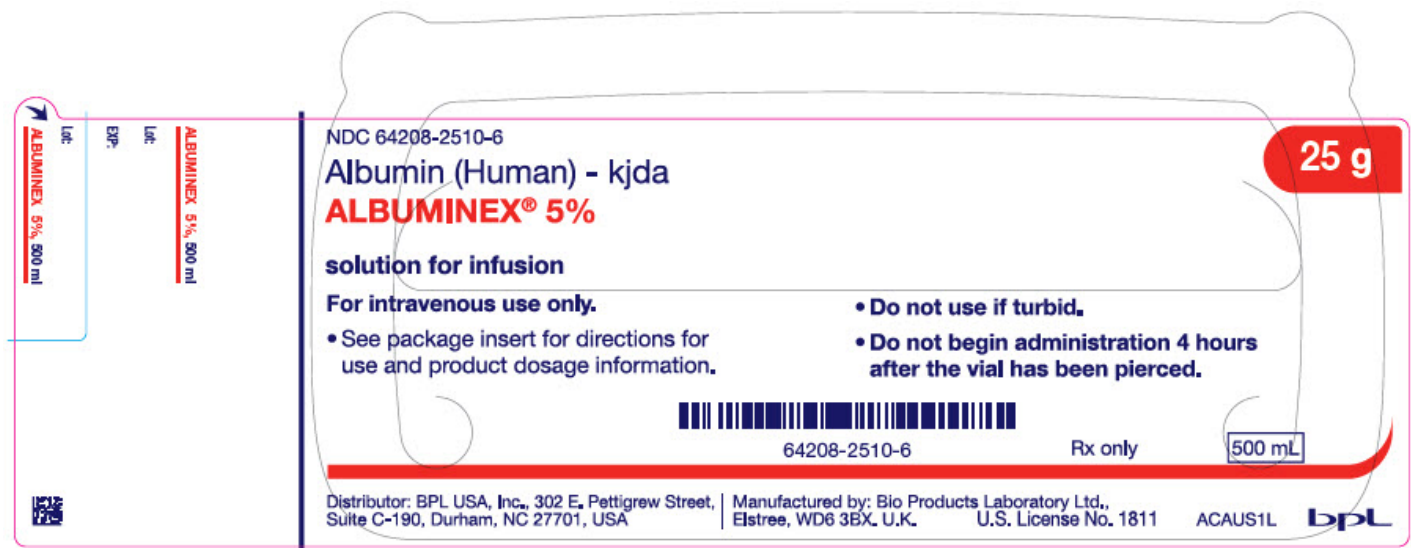
ALBUMINEX[®] 5%

solution for infusion

For intravenous use only.

- See package insert for directions for use and product dosage information.

Distributor: BPL USA, Inc., 302 E. Pettigrew Street,
Suite C-190, Durham, NC 27701, USA



PRINCIPAL DISPLAY PANEL - 500 mL Vial Carton

NDC 64208-2510-5

Albumin (Human) - kjda

ALBUMINEX[®] 5%

25 g

solution for infusion

For intravenous use only

Rx only

1 vial

500 mL

Bio Products Laboratory



PRINCIPAL DISPLAY PANEL - 250 mL Vial Label

NDC 64208-2510-2

Albumin (Human) - kjda

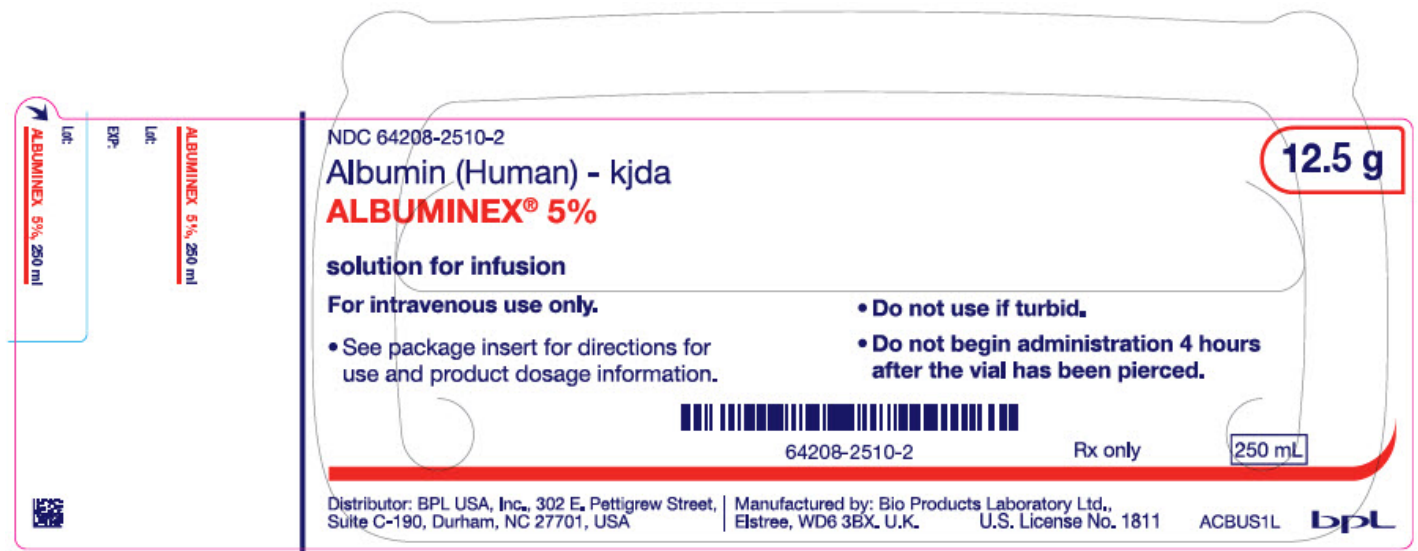
ALBUMINEX® 5%

solution for infusion

For intravenous use only.

- See package insert for directions for use and product dosage information.

Distributor: BPL USA, Inc., 302 E. Pettigrew Street,
Suite C-190, Durham, NC 27701, USA



PRINCIPAL DISPLAY PANEL - 250 mL Vial Carton

NDC 64208-2510-1

Albumin (Human) - kjda
ALBUMINEX® 5%

12.5 g

solution for infusion

For intravenous use only

Rx only

1 vial

250 mL

Bio Products Laboratory



ALBUMINEX

albumin human solution

Product Information

Product Type	HUMAN PRESCRIPTION DRUG	Item Code (Source)	NDC:64208-2510
Route of Administration	INTRAVENOUS		

Active Ingredient/Active Moiety		
Ingredient Name	Basis of Strength	Strength
Albumin Human (UNII: ZIF514RVZR) (Albumin Human - UNII:ZIF514RVZR)	Albumin Human	0.05 g in 1 mL

Inactive Ingredients	
Ingredient Name	Strength
Sodium Chloride (UNII: 451W47IQ8X)	
Sodium Hydroxide (UNII: 55X04QC32I)	
Caprylic Acid (UNII: OBL58JN025)	
Sodium acetyltryptophanate (UNII: 3EN9H0M2FX)	

Packaging				
#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:64208-2510-5	1 in 1 CARTON	05/27/2020	
1	NDC:64208-2510-6	500 mL in 1 VIAL, GLASS; Type 0: Not a Combination Product		
2	NDC:64208-2510-1	1 in 1 CARTON	05/27/2020	
2	NDC:64208-2510-2	250 mL in 1 VIAL, GLASS; Type 0: Not a Combination Product		

Marketing Information			
Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
BLA	BLA125644	05/27/2020	

Labeler - BPL (216845337)